TERRA

THE NATURAL HISTORY MUSEUM OF LOS ANGELES COUNTY
VOL. 25, NO. 2 · NOVEMBER/DECEMBER 1986

MEMBERS' TRAVEL PROGRAM

Monarch Butterfly Safari
January 24–28, 1987
Adventuresome members will visit remote sites where tens of millions of monarch butterflies congregate as they overwinter in the mountains west of Mexico City. Those who are willing to brave the chilly nights and mile-long walks will see one of the wonders of the natural world—Monarch butterflies so numerous you can hear them fly! Julian Donahue, curator of moths and butterflies, and Chris Nagano, staff biologist, Monarch Project, will join us. $490, plus air fare.

Baja California and the Sea of Cortez
March 1–15, 1987
Join us on a cruise of Baja California, a rugged peninsula on which live plant and animal species found nowhere else. Off the mountain-rimmed coastline we will look for dolphins, elephant seals, sea lions, and ospreys. And as we cruise the Sea of Cortez, we hope to sight many kinds of whales, including the largest creature ever to inhabit the earth, the blue whale. Naturalist John Heyning, marine mammal specialist, will accompany us, along with an expert crew. Much of our route is pure wilderness and a bird watcher's paradise. From $2,940, plus air fare.

Lapland Reindeer Safari
March 12–20, 1987
On this unusual adventure we will cross the Arctic Circle, enjoy lunch in a Lapp home, and relax in a Finnish sauna at the end of each exciting day. A visit to Helsinki, Finland's cosmopolitan seaside capital, will end our tour. Dr. Sarah George, our assistant curator of mammals, has done field work in Lapland and will accompany us, as will local guides. $1,949, including air fare.

Discover New Zealand
April 10–25, 1987
Because our members enjoyed New Zealand so much during our South Pacific tour in 1986, we now offer a very special exploration of the rich cultural and natural history of this exquisite country. We will explore the beautiful mountains and fjords, rolling farmlands, quaint towns, and natural wonders of New Zealand. A special highlight will be the opportunity to get to know many New Zealand friends of our tour leader, Tom Peirce of High Country Passage. Judy Chovan, the Natural History Museum's Science Education Specialist, spent two years in the South Pacific with the Peace Corps, and her enthusiasm and skills as a naturalist leader will add to our enjoyment. $2,535, plus air fare.

Peru—Land of the Inca
May 12–26, 1987
On this particularly exciting expedition we will explore the Inca citadel of Machu Picchu in the highlands for two full days, investigate the world-famous Nazca lines in the southern desert, and visit the incredible adobe brick city of Chan Chan. Other highlights include the Inca fortress of Ollantaytambo in the magnificent Urubamba Valley, a boat trip to see the abundance of bird and marine life of the Ballestas Islands, and a visit to the native highland market of Chinchero. Dr. Liz King Black, our accompanying anthropologist, will share her extensive knowledge of Peru with the group. $2,225, plus air fare.

Islands of Indonesia—Bali, Java & Sumatra
June 7–27, 1987
Indonesia holds an allure for visitors that is matched by few places on earth. North central Sumatra is a mountainous region that is home to the Batak tribes, a fascinating cultural group because of their geographic isolation. Java offers more than just tropical beauty: its ancient temples record the evolution of religious life on the island from Buddhism to Hinduism and finally to Islam. Bali, however, has remained Hindu, and is a magical land of art and artists, exotic rituals, festivals, and ceremonies. Join us as we explore those beautiful and fascinating islands of Indonesia. $2,285, plus air fare.

India—with Kashmir and Ladakh ("Little Tibet")
July 9–28, 1987
The focus of this tour is the Himalayan region of northern India, which features the serene beauty of Kashmir and the stark splendor of Ladakh's Tibetan Buddhist culture. Our trip begins with a trip to the Taj Mahal, a stay in a maharajah's palace, and an elephant ride to Jaipur's Amber Palace. As we relax on Srinigar's famed houseboats, we will explore the beautiful Vale of Kashmir. Driving one of the world's highest roads over the Himalayas will bring us to Ladakh, often called Little Tibet, the moonland, or the last Shangri La. $2,695, plus air fare.

North American Expeditions Archaeology and paleontology programs tentatively planned for June and August 1987; please call 213/744-3426 for more information.

Kenya Tented Safari
August 7–25, 1987. $2,595, plus air fare.

Paris to Peking Express
September 5–28, 1987. $4,990, plus air fare.

Grand Canyon River Rafting September 6–12, 1987. $560, including train fare.

Ancient and Living Greece October 12–23, 1987. $1,099, plus air fare.

Fall Foliage on the East Coast Tentatively planned for October, please call 213/744-3426 for information.

For further information, please send a self-addressed stamped envelope with your request to the Membership Office, Natural History Museum, 900 Exposition Boulevard, Los Angeles, CA 90007 or call the Membership Office at 213/744-3426.

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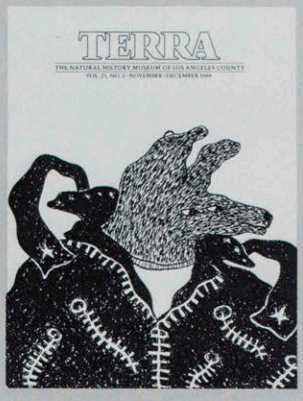
TERRA

THE MEMBERS' MAGAZINE
OF THE NATURAL HISTORY MUSEUM
OF LOS ANGELES COUNTY
AND THE PAGE MUSEUM
OF LA BREA DISCOVERIES

VOL. 25, NO. 2 • NOVEMBER/DECEMBER 1986



COVER: "Coyote" from *Coyote: Thirteen Lithographs and a Poem* by Harry Fonseca © 1984 Limestone Press (20½" x 15", 9 in an edition of 30). Coyote: A Myth in the Making, an exhibit of the work of artist Harry Fonseca, opens December 6, 1986, in the Natural History Museum's Director's Gallery, and will be on display until May 3, 1987.

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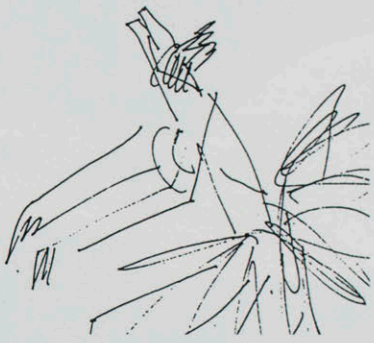

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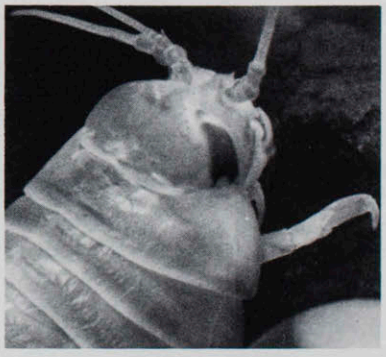

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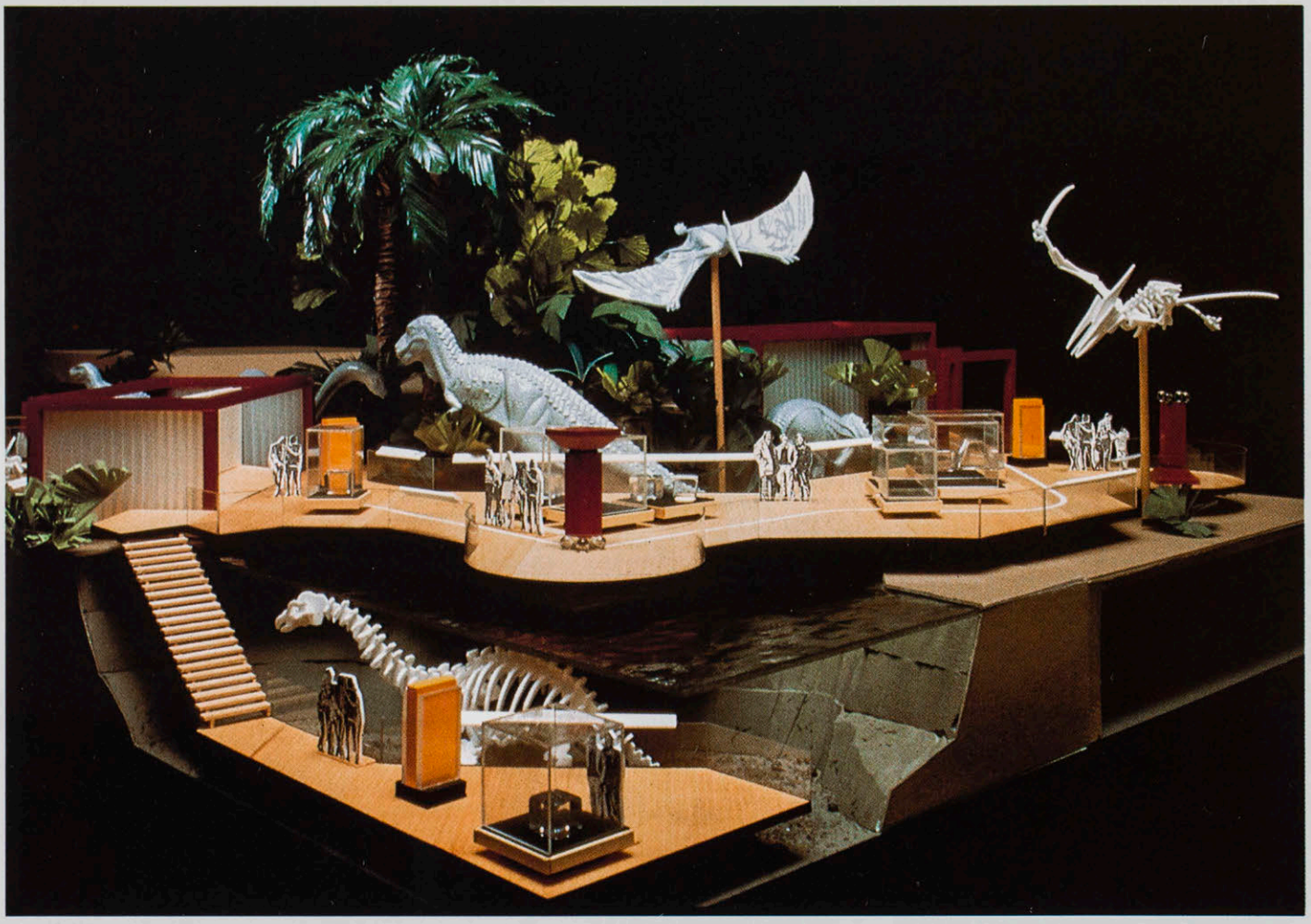
MUSEUM ON THE MOVE



Artist's rendering of Design and Production Incorporated's concept for the Natural History Museum's future Hall of Evolving Life.

Hall of Evolving Life Architect Selected. Welton Becket Associates, the internationally known architectural and engineering firm, has been selected to provide the overall planning and project management for the 40,000 square-foot Hall of Evolving Life—the cornerstone of the museum's $30 million, Seventy-Fifth Anniversary Campaign (see TERRA, May/June 1986).

Welton Becket Associates brings to this project more than fifty years of experience in southern California; the firm was established in 1933 and has placed more than $8 billion worth of projects into construction. Welton Becket Associates has been responsible for more than 85 major commissions in the city alone; it was the design architect for the Los Angeles County Music Center Complex, the interior designer for opening exhibits at the Temporary Contemporary Art Museum, and the master plan architect for UCLA, including the design of Pauley Pavilion and thirteen other major structures on campus. Recent Becket projects in California also include the Los Angeles International Airport Terminal No. 1 and the seven-year restoration of the California State Capitol Building in Sacramento, Los Angeles's 400 South Hope Building, and two significant current downtown Los Angeles projects, the new Federal Center and Library Square.

The Hall of Evolving Life will contain exciting and innovative exhibit concepts. The new building must accommodate these unusual requirements and also relate to the original Spanish Renaissance building and its additions. Integrating the diverse elements of the existing building with a bold new addition will test the skills of the design team. In collaboration with Emmett Wemple, Landscape Architect, and Design and Production Incorporated, exhibit designers, Becket will be seeking a design solution that will also create a new and dramatic presence for the museum on Exposition Boulevard.

According to Welton Becket's Senior Vice President and Director of Design, Louis Naidorf, FAIA, the design will focus on a great glass-vaulted central space that will contain the major habitat groups. The exhibit spaces and outdoor gardens will be set over a new underground parking structure for staff and visitors.

Hall of Evolving Life Exhibit Designer Selected. Design and Production Incorporated of Lorton, Virginia, has been selected to design the exhibits, films, and interactive presentations that will be housed in the new Hall of Evolving Life. Having recently designed the Natural History Museum's newly opened Deutsch Gallery, Gemstones and Their Origins, they are no strangers to the museum. They also did the scripting, concept, final design, and fabrication of the traveling exhibit *Mary Rose:* Henry VIII's Lost Warship, which has just completed a very successful run at the museum, in addition to the design of Magnificent Voyagers, a Smithsonian Institution Traveling Exhibition Service exhibit that will open here next June.

Design and Production Incorporated has been providing services to museums across the country for thirty-six years. Their work can be seen at the California State Railroad Museum, the Statue of Liberty, the Carter Presidential Museum, colonial Williamsburg, and the Smithsonian Institution.

The theme of the Hall of Evolving Life will be "On a Journey Through Time," an exploration of the creation of life on earth and the natural laws that control it. Visitors will begin their journey at the Origins Theater, a projection environment presenting the forces that created the Earth and introducing the first life forms. From this theater, visitors will proceed on a "time trail," a series of pathways that move in an upward progression representing geologic time. On each pathway visitors will meet other time travelers: species that have shared humanity's evolutionary journey. The pathways will be surrounded by full-scale habitat groups, creating a walk-through environment of reconstructed animals and plants and specimens from the museum's collections.

Jim Olson, the Natural History Museum's Project Manager for the Hall of Evolving Life, noted that the museum is indeed fortunate to have both an architect and an exhibit designer with such impressive credentials and is sure that the Welton Becket/Design and Production team will give the people of Los Angeles a facility that will serve as a model for museums around the world to emulate well into the twenty-first century.

Hall of Native American Cultures Contract Signed. On July 1, the museum signed a contract with world-renowned Canadian exhibit designer Jean-Jacques André to design the new Hall of Native American Cultures (see TERRA, May/June 1986), which is scheduled to open in late 1988. Mr. Andre's previous work includes the Native American exhibit at the Provincial Museum in Victoria, British Columbia, and he has worked extensively with Native Americans on many anthropological and exhibition projects.

According to Dr. Margaret Ann Hardin, Head of the Anthropology Section, the goal in developing the exhibit has been to address the diversity of Los Angeles's Native American community. American Indians living in Los Angeles come from many different tribes and cultures and from nearly every reservation and native village in North America. For this reason, the new exhibit plans are broadly regional in scope and include materials from all over the United States, with specific emphasis on Plains, Southwestern, and California tribes of American Indians.

Special pieces of Native American artwork from the museum's enthnographic collection will be showcased, including Navajo textiles, California and Great Basin baskets, southern California archaeological materials, Southwest pottery, and historical photographs. Particular attention will be paid to re-creating the ecological and cultural contexts in which these material goods were crafted and used. This will be accomplished through the use of a variety of special displays including full-scale habitats, miniature dioramas, and audiovisual presentations.

The hall will feature an overview of the many legacies of American Indian tradition, covering a broad time range from the prehistoric past to the present. In this unique exhibit natural and architectural habitats will foster the visitor's appreciation of American Indian attitudes toward the environment and family life. Also included in the hall will be a historical treatment of innovations in American Indian art of the last century. A broad treatment of the contemporary Los Angeles Native American community will round out the exhibit.

"We want to emphasize how Native Americans have preserved their heritage under the most difficult of circumstances," said Dr. Hardin. "In a way, we are coming full circle in the exhibit. By showing the process of change through time, we show that modern Native American culture is not static nor a thing of the past." The continuing survival of Indian culture and its capacity to adapt to a changing world is a major theme of the exhibit.

Included in the Hall of Native American Cultures will be an innovative changing gallery to showcase contemporary Native American arts. These contemporary, thematic exhibits will keep abreast of the vital artistic changes within the American Indian community and preserve them for future generations. "All the best collections were new when they were acquired," explains Dr. Hardin. "Collecting the contemporary is part of the museum's responsibility to future generations."

This approach promises an exhibit that will touch upon subjects of origin, technology, economics, and recent history not usually seen in ethnographic halls. Special emphasis on the vital, changing culture of modern American Indians promises an innovative, living hall. "The most important thing for the public to learn from this exhibit is that Native Americans are still here, right here in Los Angeles, as classmates, neighbors, and fellow community members."

New Seventy-Fifth Anniversary Campaign Leadership Named. Charles O. Parker II, Vice Chairman of the Southern California Gas Company, and John Harrigan, Chairman of the Board of Union Bank, have been named Chairman and Vice Chairman respectively of the Natural History Museum's $30 million Seventy-Fifth Anniversary Campaign. Mr. Parker succeeds Richard Call, M.D., who served as Founding Chairman of the campaign, which began just over a year ago. Under Dr. Call's leadership, the planning and advance gift phases of the campaign were carried out, resulting in

commitments to the museum of almost $10 million. Dr. Call, who is president of the Seaver Institute, will continue as an active member of the Seventy-Fifth Anniversary Campaign Committee. Mr. Parker previously served as the campaign's vice chairman, and Mr. Harrigan served on the campaign committee and also chairs the museum's Great Bird Hall Committee.

Steele Challenge Approaches Half-Way Mark. More than $240,000 has been raised in response to a challenge to the Natural History Museum by the Harry and Grace Steele Foundation (see TERRA, July/August 1986) to raise $500,000 for the Wetlands Marsh Habitat in the museum's proposed Great Bird Hall. Major funding to date includes gifts from the Union Bank Foundation, Southern California Edison Company, the Los Angeles Audubon Society, and the Santa Anita Foundation in addition to gifts from Museum Foundation Trustees, Alliance Board members, and members of the museum's Bird Council. A complete listing of all donors will be published in TERRA when the Steele Foundation Challenge is completed next year.

For more information on the Great Bird Hall and how you can participate in the Steele Foundation Challenge, please contact the Natural History Museum's Development Office at 213/744-3307.

Mattel Foundation Supports Discovery Center. The Mattel Foundation has awarded the Natural History Museum a grant of $23,000 to underwrite the cost of learning materials—including the Discovery Boxes and Learning Stations—for the new Discovery Center scheduled to open to the public in early 1987 (see TERRA July/August 1986).

The focus of the Mattel Foundation is on programs that alleviate hardship or accentuate opportunities for children, youth, and the handicapped, and that are also designed to strengthen family life, goals shared by the Natural History Museum in its planning of the Discovery Center.

Construction of the Discovery Center is proceeding on schedule. Phase I of the project, which required gutting the north wing off the Rotunda and returning it to its original 1913 grandeur, was completed in early September. Phase II of the project, including construction of the walk-in Oak Tree and Quarry/Cave habitats, is well under way.

When completed, the Discovery Center will be the largest and most comprehensive facility of its kind in the United States.

BUSINESS ASSOCIATES

The Natural History Muesum's Business Associates program comprises corporations and corporate foundations that recognize the museum to be of unquestioned value to the community at large and their employees in particular. Through the Business Associates the museum is building stronger links to the corporate community and is thus better able to offer creative new exhibitions as well as a variety of education programs for both children and adults. The Business Associates program is helping to ensure and enhance a rich historical and natural sciences heritage for present and future generations of Californians.

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CHARLES R. KNIGHT EXHIBIT

Dinosaurs, Mammoths, and Cavemen

RETURNS TO THE NATURAL HISTORY MUSEUM

Dinosaurs, Mammoths, and Cavemen is a newly expanded version of the exhibit that appeared at the Natural History Museum of Los Angeles County in 1982. It is now augmented by 52 pieces that have not been exhibited before on the West Coast, including 28 pieces from the American Museum of Natural History, New York, and 24 classic paintings used to illustrate "Parade of Life Through the Ages," an article that Knight wrote for *National Geographic Magazine* in 1942. The exhibit was organized by Guest Curator Sylvia Czerkas; after closing in Los Angeles on April 12, 1987, it will continue to travel under the auspices of the Natural History Museum of Los Angeles County to other museums in the United States and Canada. Museums receiving the exhibition include the Memphis Museum, the National Museum of Natural History (Smithsonian Institution), the Tyrrell Museum of Paleontology, and the American Museum of Natural History.

A formal portrait of the young Charles R. Knight. Courtesy of Rhoda Knight Kalt.

Charles R. Knight (1874–1953) was the first artist to breathe life into prehistoric creatures. His perceptions of these beasts were colored by his observations of living animals:

> Chickens are fierce birds...and with their bright sharp eyes and scaly legs, they always remind me of a lizard or (as I have studied them so much in later years) even a little Dinosaur. When looking at them now I can easily fancy a connecting link between the birds and the reptiles, through the picture they present as they fight with each other or stalk about in search of food.

His careful study of fossil remnants and consultation with paleontologists, coupled with long years of study of the appearance and peculiarities of modern animals, led to a vision of a vanished world that did not seem so much monstrous as plausible. His *Monoclonius* has the quiet contentment of modern mammalian herbivores, his *Dryptosaurus* (see TERRA, January/February 1986) the dangerous playfulness of a pair of tiger cubs. The postures of his animals seem natural and real. They have been so very convincing that to this day artists imitate his *Ornitholestes* snacking on an *Archaeopteryx* and his *Allosaurus* tearing off the last good bites of a well-chewed over *Apatosaurus*.

Knight was born and raised in Brooklyn, New York. He developed an interest at a very early age in animals and in art that was encouraged by his father and his step-mother, herself an accomplished artist. While still a teenager he began work for a church-decorating firm drawing background lambs, lions, doves, pelicans, lilies, roses, and passionflowers for stained-glass designs. Following the death of his father, he left the firm and began to provide illustrations of animals for children's books and for *McClure's* magazine. To familiarize himself with the musculature and skeletal structure of animals, he spent long hours at the Central Park Zoo and in the taxidermy department of the American Museum of Natural History. His assiduous study of animal physiology brought him to the attention of Dr. Jacob Wortman, a specialist in fossil teeth, who asked him to produce a life restoration of an extinct, giant piglike mammal called *Elotherium*. He was soon given many such assignments, which led him into the field of work that would employ him over the next four decades.

In 1896 Knight met the paleontologist Professor Henry Fairfield Osborn. Knight worked with Osborn to produce lifelike exhibits of extinct animals for the American Museum of Natural History—these life restorations were rarities at that time because most displays of fossils made no attempt to convey to the viewer the appearance and habits of the living animal. Knight also worked closely with the pioneer natu-

CHAS. R. KNIGHT
'97

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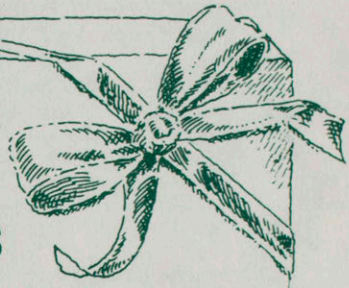

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Pages 8 and 9: A painting of Monoclonius (Agathaumus), *a member of the ceratopsian family, from 1897, based on Edward Drinker Cope's description. Courtesy of the American Museum of Natural History.*

Below: Mastodon americanus, *the American mastodon, painted in 1909, based on the nearly complete skeleton of the so-called Warren Mastodon, purchased for the American Museum of Natural History by J. P. Morgan and mounted in 1907. Courtesy of the American Museum of Natural History.*

Right: One of Knight's most beautifully executed pencil drawings (1901) of an extinct creature, the giant flightless bird of prey Phororhacos. *This ten-foot-tall carnivore was the dominant predator in the Miocene hills and plains of Patagonia. Courtesy of the American Museum of Natural History.*

ralist Edward Drinker Cope to illustrate many dinosaurs, sometimes from very fragmentary material. If the restorations are not entirely accurate in light of present-day paleontological knowledge, they were correct according to the knowledge of that time.

In addition to his work with the American Museum of Natural History, Knight also produced a stunning set of often-reproduced murals depicting the developing complexity of life through the ages for the Field Museum in Chicago. He also worked for the Smithsonian, the Carnegie Museum of Natural History, Pittsburgh, and in 1925 he completed the large mural showing the Pleistocene La Brea fauna for the Los Angeles County Museum that is now on view in the Natural History Museum's California Fossil Hall. Other Charles Knight works owned by the museum include his final series of paintings—24 small oils painted between 1944 and 1946—representing different forms of life through a succession of geological ages.

Edwin H. Colbert, the celebrated paleontologist and a friend of the artist, had this to say about him: "In this very special field of artistic endeavor he was truly a pioneer. He pointed the way for younger artists, and although some of his successors have created superb restorations of ancient life, none has excelled him. Knight not only made us familiar with the outward form of the animals he was drawing but also with their inner character. He was able to show us something of the psychology of those early beasts because he knew so well the psychology of their modern relatives, which he had so carefully studied. With his skills Charles Knight opened our eyes to a former world, much of it never seen by man."

Sylvia Czerkas
Guest Curator

CHAS. R. KNIGHT
1901

Knight was particularly fascinated by the paintings of such animals as mammoths and extinct forms of bison, reindeer, and horses made by Cro-Magnon men on their cave walls, because such artwork was based on living subjects. As he wrote in his book Prehistoric Man: The Great Adventurer *(1949), "These drawings were, of course, the contribution of men very like ourselves in every way, and not by any means the product of a limited mentality." Knight visited Spain and France to view the cave paintings. This painting appeared in the February 1942 issue of* National Geographic Magazine. *Courtesy of the National Geographic Society.*

COYOTE

A MYTH IN THE MAKING

Previous page: **Coyote Leaves the Res, NY NY** *(1982), oil, 6′ x 5′. Here the urban, contemporary figure of Coyote has emerged. He leaves behind the rural, open night sky background and turns to the city, becoming a symbol of the urban Indian experience.*

Above: **Creation Story** *(1977), pencil, pen, and ink, 29½″ x 35″. This painting was one of Harry Fonseca's first major pieces; what began as a class assignment evolved into the visual history of the Maidu, to which Fonseca belongs.* **Creation Story** *is a pictorially complex sequence set in a spiral motif. The central focal point is Helinmaiden, the Maidu Big Man, Great Man, or God, as he appears on the raft with Turtle. The continuing pencil and ink drawings are linked together as they rotate in a clockwise movement around the central axis of Helinmaiden, whose importance is expressed by his central placement. The spiral design echoes the cyclical rhythm of the storytelling in connection with the seasonal celebrations.*

by MARGARET ARCHULETA

Among many Native American peoples, the coyote is a trickster figure. Among the Maidu of northern California, however, Coyote is more than just a spoiler—he also provides a guide through life, demonstrating what behavior is unacceptable and dangerous, providing opportunities for others to learn from his mistakes. According to Maidu oral tradition, Coyote is also responsible for the existence of work, suffering, and death. He is, on the other hand, a buffoon, the trickster who is only tricking himself, who comes out of his adventures in a sorry plight.

> Coyote was walking along a river. He saw a sycamore tree. A leaf blew off from it and came sailing softly down to the ground. Coyote thought he could do the same: so up the tree he went, jumped off, and was smashed all to pieces.

Nonetheless, Coyote is a survivor; he never really dies. As a survivor, Coyote speaks to the contemporary Indian with a promise of a continuation of cultural ideals and identity, qualities that drew artist Harry Fonseca to depicting Coyote in his work. Over the last decade Fonseca has transformed the Coyote figure from the spirit impersonator as portrayed in traditional Maidu dances to a contemporary guise that bears few traces of his northern California Indian origins.

Harry Fonseca was born in Sacramento, California, in 1946; he is of Maidu, Portuguese, and Hawaiian descent, and he grew up in Sacramento acutely aware of his mixed heritage. However, he was greatly influenced by his uncle Henry Azbill, a Konkow Maidu elder, who encouraged him to attend the Maidu dances at Grindstone, near Chico. Azbill was a great promoter and preserver of the Maidu culture, which had undergone tremendous turmoil after the tribe was decimated following the influx of gold seekers and settlers to their land in California's northern Sierra. Said Fonseca of his uncle:

> Henry Azbill, Konkow, was a man who knew his traditions and lived in a contemporary world at the same time. I admired that. He didn't expect a lot from either. He knew the traditions were changing, out of his control. He watched the changes and accepted them. He was a teacher of Indianness and made me conscious of it.

Fonseca is largely self-taught: "I've been drawing this way since I was twelve years old," he said in a recent interview. His earliest works relate directly to his Maidu heritage. As part of an assignment for a class in American Indian art at California State University, Sacramento (which Fonseca attended as a fine arts major), Fonseca tape-recorded his uncle telling the Maidu creation myth. After recording the story, Fonseca realized that it was more than a creation myth; it was the tribal history. In 1976, Fonseca applied for and received a Special Projects Grant from the California Arts Council to aid in the making of the *Creation Story*. This marked the beginning of the three-year project that became the visual record of an oral history.

Fonseca's early works, created in the late 1960s through the 1970s, have been referred to as his "traditional" paintings—traditional because Fonseca was illustrating the Maidu culture, the dances, the regalia, and the basket designs, "the beginnings," as he said, "of the California people." This more traditional phase of Fonseca's art continued with *A Gift from California*. Fonseca created *A Gift from California* (1980) shortly after he arrived in Albuquerque, New Mexico, where he was overwhelmed by the strong Indian culture of the Southwest. In this painting he responded to the lack of knowledge about California Indians; he wanted to show that California Indian cultures were alive and very different from those of the Southwest and Great Plains.

Fonseca's Coyote image developed from sketches and paintings of traditional Maidu spirit impersonator dances; this transformation in Fonseca's art can be seen in the representation of the Coyote dancer in *Coyote #1* (1979). In *Coyote Leaves the Res, NY NY* (1982) Coyote has transformed into an urban, contemporary figure. He has symbolically left his rural reservation to become an important representation of the urban Indian. Coyote leaves behind the traditional dance regalia seen in *Coyote #1* and dons urban street dress: a black jacket, Levis, Converse high-top tennis shoes, and even an earring; according to Fonseca, Coyote's black jacket is a "contemporary expression of traditional trappings." Coyote has a reputation for being

A Gift from California ***(1980), serigraph, 22" x 30". Created shortly after Fonseca's arrival in Albuquerque, New Mexico,*** **A Gift from California** ***presents Fonseca's assertion that the Indian culture of California was alive and very different from that of the Southwest. The serigraph illustrates a women's dance, which honors both the acorn and women as givers of life; the four dancers carry burden baskets filled with acorns, a traditional staple of life for the Maidu and a symbolic representation of Maidu culture. The traditional Maidu basket designs are, from left to right, winged lightning, angle worm, quail plume (Fonseca's grandmother's design), and ants on a log.***

vain: a series of Coyote tales refers to the often ridiculous outcome of his desire to be more handsome. Here his jacket is covered with flashy zippers, chains, studs, and stars, a testament to Coyote's love of excess and flash. "Coyote like anything that shines," says Fonseca.

Through the traditional trickster's personality, the now-urbanized Coyote pokes fun at the Hollywood stereotype of an American Indian. In *Coyote in Front of Studio,* Coyote wears a full Plains-style feather headdress. He carries a large beaded leather bag and holds three cigars, while standing on a wooden box, the ultimate symbol of the American Indian—a cigar store Indian. By making the symbol vulnerable through humor, Fonseca has challenged the viewer: the viewer is presented with the opportunity to recognize the symbol as being an incorrect representation for *all* Indian people. Likewise, in *Coyote and Rose Doin' It at Indian Market with a Little Help from Gail, Yazzie, and Jody* (1982), Fonseca gently satirizes the annual Indian Market, held every August in Santa Fe, New Mexico.

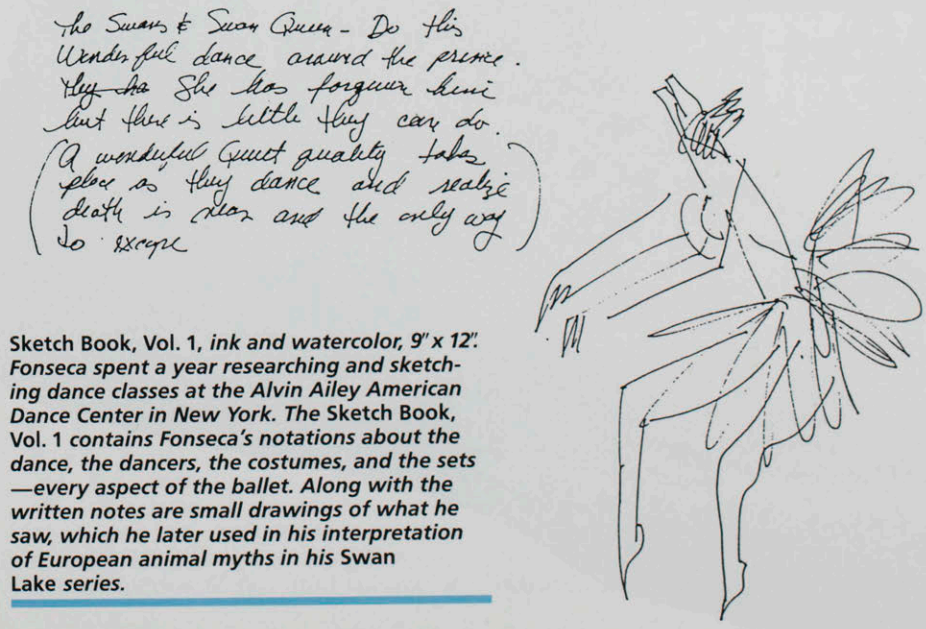
Until recently, Coyote has been recognizably Indian. However, in *Pas de Deux #2* (1984), Fonseca explores European animal mythology by having Coyote and Rose invade and revise the classic ballet

Coyote #1 *(1979), acrylic, 48″ x 25″. Fonseca's Coyote image developed from this traditional dance portrait to the contemporary guise, which has no identifying Maidu characteristics. In this early portrait, the dancer wears the traditional feather cloak, on top of which is a coyote head worn as a headdress rather than a mask. The coyote tracks around the dancer's feet signal the transformation of the dancer from human to spirit: the human feet make animal tracks and/or the tracks are made by the invisible Coyote spirit as it dances with the dancer.*

Left: Coyote Dancer *#2 (September 12, 1982), ink, 15″ x 11″. Fonseca's attention to movement and dance can be seen in this study of Coyote—the Maidu's trickster figure. The line quality and spontaneous brushstroke captures Coyote's fluid dance movement. Fonseca creates a miniature masterpiece with this study of Coyote.*

Coyote in Front of Studio, *acrylic, 30" x 24". Fonseca uses Coyote to poke fun at the familiar stereotype of the American Indian. The urbanized Coyote, in black leather jacket, Levis, and high-top tennis shoes, wears the Hollywood-approved version of the most recognizable item of Indian dress, a full Plains-style feather headdress. Coyote also carries a large beaded leather bag and holds three cigars as he stands on a wooden box. Through Coyote's regalia, which is not worn in the artist's own Maidu culture, Fonseca satirizes the stereotype of a "real" Indian.*

Coyote and Rose Doin' It at Indian Market with a Little Help from Gail, Yazzie, and Jody *(1982), mixed media, 35" x 48". As in* Coyote in Front of Studio, *Fonseca satirizes "typical" Indian culture, here, that of the Southwest. Coyote and Rose, a female counterpart to Coyote invented by Fonseca, are at the annual Indian Market in Santa Fe, New Mexico, coyly peddling acceptable Indian art: turquoise and silver jewelry, pottery, and kachinas.*


The Swans & Swan Queen - Do this
Wonderful dance around the prince.
They - he She has forgotten him
but there is little they can do.
(A wonderful quiet quality takes
place as they dance and realize
death is near and the only way
to escape

Sketch Book, Vol. 1, *ink and watercolor, 9" x 12". Fonseca spent a year researching and sketching dance classes at the Alvin Ailey American Dance Center in New York. The* Sketch Book, Vol. 1 *contains Fonseca's notations about the dance, the dancers, the costumes, and the sets —every aspect of the ballet. Along with the written notes are small drawings of what he saw, which he later used in his interpretation of European animal myths in his* Swan Lake *series.*

Swan Lake. Pas de Deux #2 is part of a series that Fonseca worked on for five years after spending a year researching and sketching dance classes at the Alvin Ailey American Dance Center in New York. Fonseca's resulting expert expression of movement and the techniques of illustrating movement are beautifully portrayed in *Pas de Deux #2*. Through Coyote, the unquestionable trickster, Fonseca offers his own charming and humorous interpretations of the ballet, one of the sacred icons of mainstream culture. It is through the incongruent image of Coyote dancing a *pas de deux* that Fonseca allows us to use tradition to explain and understand the present—Fonseca's Coyote is the continuity of the past in the present. Coyote endures and with him Indian identity endures.

Margaret Archuleta (Pueblo) is Guest Curator of Coyote: A Myth in the Making; her research—funded by an Institute of American Cultures grant, American Indian Studies Center, UCLA—for her master's thesis in Native American Studies at UCLA is the basis for the exhibit and for this article.

Pas de Deux #2 *(1984), mixed media, 48″ x 36″. In* Pas de Deux #2, *Coyote invades and revises the classic ballet* Swan Lake. *Here Fonseca uses a collage of various materials: the curtain is a red-velvet cloth glued to the surface, and the stage lights are Matisse-like cut-outs. Fonseca uses spray paint and glitter to bring the magic and sparkle of the ballet to the canvas.*

Tennis Shoe, *mixed media, 11″ x 6″ x 7″. Fonseca's sense of humor is exemplified in* Tennis Shoe. *The influence of the California Funk movement on Fonseca is evident through the use of bright colors and glitter. The watermelon design is reminiscent of the Koshare figures, which are to Fonseca a symbol of the Southwest Indian culture; it is not unusual to see Koshares wandering about the Pueblo Feast Day activities carrying or eating a watermelon and wearing tennis shoes.*

"THE SPLENDOUR OF CITIES AND FORTRESSES"

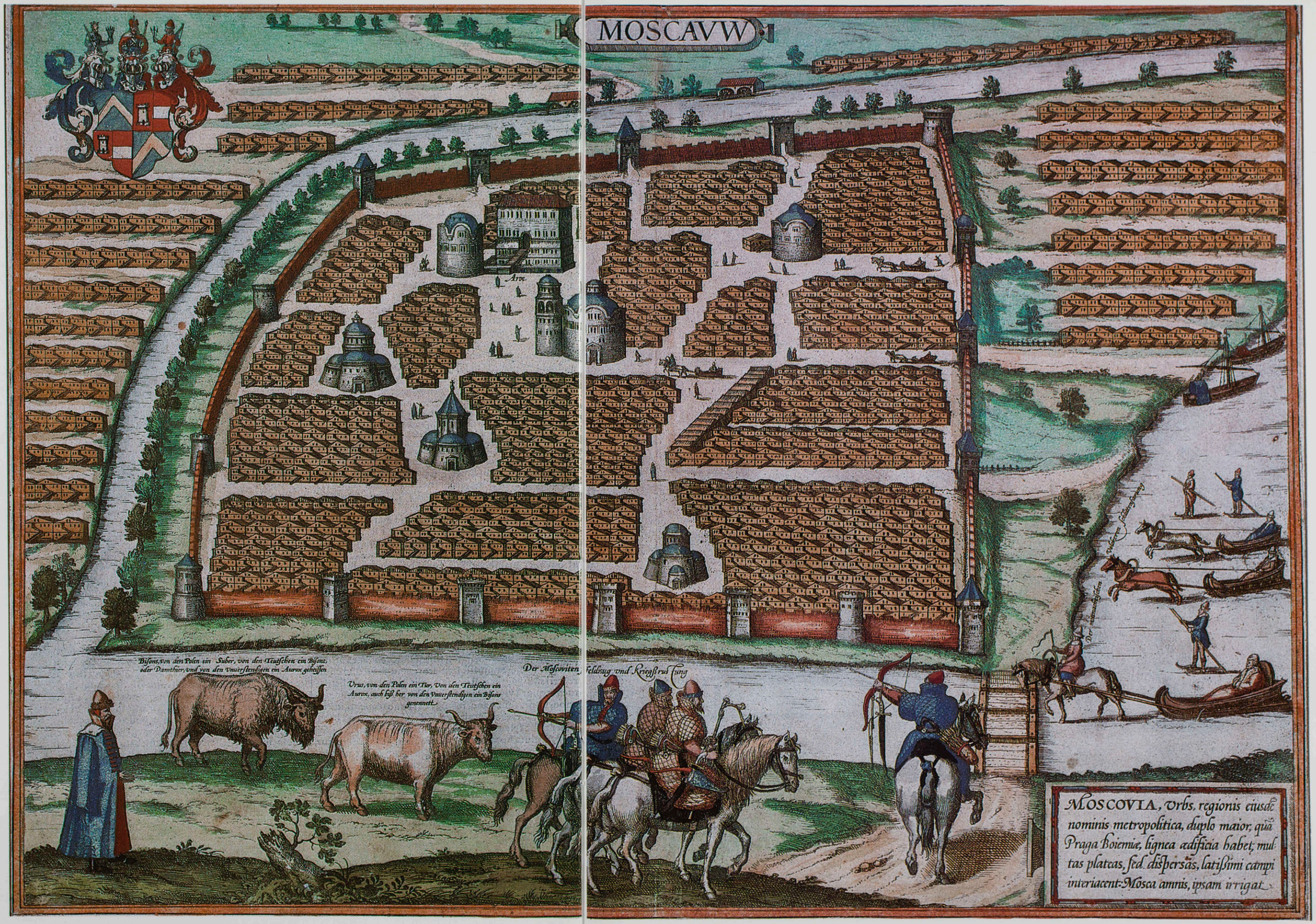
An Exhibit of European City Views from the Sixteenth and Seventeenth Centuries

A woodcut view of Nuremberg from Hartmann Schedel, Liber Chronicarum *(1493), better known as the* Nuremberg Chronicles.

What could be more pleasant than, in one's own home far from all danger, to gaze in these books at... the splendour of cities and fortresses?" So wrote Georg Braun in the introduction to the third volume of *Civitates Orbis Terrarum,* a magnificent collection of city views published in the late sixteenth century. The Splendour of Cities and Fortresses, an exhibit of European city views, offers visitors to the Natural History Museum a leisurely—and safe—tour of sixteenth- and seventeenth-century European cities. The exhibit, which opens in the ground floor changing gallery on November 22, 1987, consists of a selection of thirty-nine original prints from the Warren C. Shearman

(Continued on page 24)

Moscow, from volume two of Braun and Hogenberg, Civitates Orbis Terrarum *(1575).*


MOSCAVW
Bisons, von den Polen ein Suber, von den Teutschen ein Bisont, oder Damthier, vnd von den Vnderstendigen ein Aurox geheissen
Vrus, von den Polen ein Tur, Von den Teutschen ein Aurox, auch bey den Vnderstendigen ein Bisons genennet.
Der Moscoviter Feldzug vnd Kriegsrüstung
MOSCOVIA, Vrbs, regionis eiusdē nominis metropolitica, duplo maior, quā Praga Boiemiæ, lignea ædificia habet, multas plateas, sed dispersas, latissimi campi interiacent: Mosca amnis, ipsam irrigat.

A copper-plate engraving of Strasbourg from Jan Jansson, Theatrum Urbium *(1657).*

(Continued from page 21)

Collection of the Historic Records Section of the History Division.

City views and plans were widely printed in the sixteenth and seventeenth centuries. Not only did they provide readers with the opportunities to see distant places without actually having to travel to them, but they satisfied other needs as well. They were a wonderful outlet for city boosters, who, even in this early age, eagerly sought ways to promote their communities. Rarely did city views display the unattractive aspects of their subjects. There are no slums, no decaying buildings. Instead, one sees impressive fortifications, magnificent architectural monuments, and elegantly dressed citizens.

Although city views were, in a sense, cleaned up, publishers tried to obtain sketches that reflected the actual plan and appearance of the cities. (This was not always the case. During the early years of printing, a single woodcut might be used over and over to depict several different cities.) The views were also frequently illustrated with scenes of men

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Oxford and Windsor, from volume two of Braun and Hogenberg, Civitates Orbis Terrarum *(1575).*

OXONIVM nobile Angliæ oppidum, Septentrionalem Tamesis ripam elegantissimo atque salubri situ illud fruit.
VINDESORIVM celeberrimum Angliæ castrum locus amoenissimus: aedificia magnifica: Artificiosa Regum sepulchra: Et illustris Garetterioru equitum Societas memorabile reddunt.

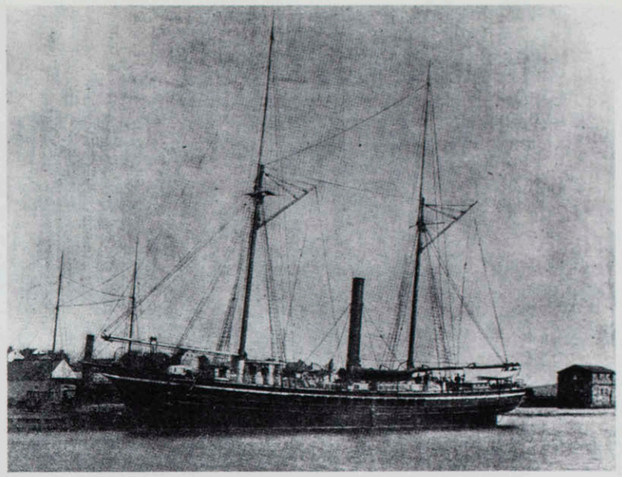
and women in local costumes and workers going about their daily tasks. They offer modern viewers a rare glimpse into the life of the past.

The thirty-nine prints used in this exhibit come from several books that are landmarks in the history of illustrated printing. They include Hartmann Schedel's *Liber Chronicarum* (1493); Sebastian Münster's *Cosmography* (1544); Georg Braun and Frans Hogenberg's *Civitates Orbis Terrarum* (1572–1618); Martin Zeiller's *Topographia Provinciarum* (1642–1688); Pierre d'Avity's *Newe Archontologia Cosmica* (1646), Joan Blaeu's *Toonneel der Steden van's Konings Nederlanden* and *Toonneel der Steden van de Vereenighde Nederlanden* (1649); and, finally, Jan Jansson's *Theatrum Urbium* (1657).

Errol Stevens
Associate Curator, History

BATHYNOMUS
A Living Sea Monster

by REGINA WETZER



The Coast Guard Steamer Blake. *In 1877, under the supervision of the great oceanographer and naturalist Alexander Agassiz, scientists aboard the* Blake *captured the first specimen of* Bathynomus giganteus *in the West Indies region. Courtesy of the Hancock Foundation Library.*

In December 1877 the U.S. government commissioned the Coast Guard Steamer *Blake,* under the supervision of the great oceanographer and naturalist Alexander Agassiz, to explore the bed of the Gulf Stream in the Straits of Florida between the southern part of the state and Cuba. The *Blake* made repeated dredgings as deep as 3,600 meters (11,811 feet). From these great depths many previously unknown animals were brought to the surface. Before 1838, fewer than twenty species of Crustacea were known to exist in the West Indies region; the *Blake* expedition added more than 150 new species in 40 new genera to those already described. Among those new species was the first specimen of the giant isopod *Bathynomus*. This first specimen captured was an immature male, a mere 23 centimeters (9 inches) in length, taken at Station 29 at a depth of over one mile (1,720 meters or 5,643 feet), west of the Dry Tortugas. Alphonse Milne-Edwards, an eminent specialist in crustaceans, first reported this specimen. Recognizing this singular beast as representing a new genus and species,the famous carcinologist christened it *Bathynomus giganteus (bathy* = deep, *nomus* = home).

The discovery of a gigantic deep-sea isopod immediately aroused great interest, and the species was soon mentioned in a number of popular books on the deep sea. The first published illustration of the species appeared not in a technical paper, but in a popular book, Filhol's *Vie au fond des mers* ("Life at the Bottom of the Ocean"), published in 1885. In 1891, Wood-Mason and Alcock reported on three females of this species dredged from the depths of the Bay of Bengal in the Indian Ocean, but it was not until 1905 that additional Atlantic specimens were reported in the literature. Published accounts of *Bathynomus* appeared sporadically throughout the first decade of this century, but over time the enormous initial public interest in the "monster" diminished.

Bathynomus belongs to a crustacean order known as the Isopoda, a group comprising over four thousand described parasitic and free-living species. In addition to isopods, crustaceans include such better-known celebrities as lobsters, crabs, and shrimp. In a fashion similar to that of a shrimp, an isopod's body is composed of a distinct number of calcified rings or segments. One pair of appendages arises from each segment, and the name "isopod" derives from the fact that all the legs are more or less similar to one another (*iso* = similar, *pod* = feet). The isopod body is typically divided into three distinct functional regions: the head, thorax, and abdomen.

Isopods are found in any remotely habitable environment. They are common on land and in fresh water, from the poles to the equator, from mountain tops to caves, and from tropical jungles to the driest deserts. Common pill bugs or roly-poly bugs, which are found under rocks and logs, are also isopods, but are members of a group specifically adapted for life on land. However, these remarkably adaptive creatures reach their greatest numbers in the sea, where they range from the intertidal zone to the great ocean depths, over ten thousand meters below the surface. Many isopods are parasites on the other sea creatures, including fishes, turtles, crabs, shrimp, and even other isopods.

Isopods are remarkable in their adaptations to this multitude of environments. What the Galapagos finches achieved in their island archipelago, the isopods have attained worldwide. Corresponding to this great global adaptive radiation, isopods exhibit tremendous variation in size. Adults of the smallest isopods attain lengths of less than one millimeter (approximately the size of the period at the end of this sentence), while most are 0.5 to 2.5 centimeters (0.2 to 1.0 inches) long. The largest species *(Bathynomus giganteus)* can achieve a body length of 46 centimeters (18 inches), about the size of a lobster dinner for two. Such a size range is comparable to that of the shrew and the blue whale, which represent the extremes in mammals.

In addition to the record-holding species *B. giganteus*, the genus *Bathynomus* contains eight other species ranging in size from 10 to 33 centimeters (4 to 13 inches). All members of this genus are remarkable for their enormous size and for their distinctive morphological attributes. Four species, *B. doderleini, B. affinis, B. propinquuis*, and *B. decemspinosus* occur in the Japan-Philippine Islands–South China Sea area. *B. giganteus*, the largest species, has been recorded in the Bay of Bengal, the Arabian Sea, the Gulf of Mexico, and in the southwest Atlantic off Brazil. *Bathynomus miyarei* was described in 1978 and was found from Ceara to the Rio Grande do Sul, Brazil, in depths varying from 22 to 280 meters (72 to 918 feet). An additional bathynomid discovery was made in deep water along the New South Wales coast of eastern Australia and has been named *B. kapala*. Two additional species have been collected very recently. *B. immanis* is reported from the Queensland coast, Eastern Australia, and *B. pelor* from Port Hedland, Western Australia. The Indo-Pacific area has the greatest abundance of bathynomid species, with 7 of the 9 species occurring between the longitudes of 100 and 160 degrees east. As deep-water trawling and scientific exploration takes place elsewhere in the world's oceans, it is likely that more species will be discovered.

A plate from the 1902 Milne-Edwards and Bouvier study, reproduced here at near the crustacean's maximum length of 18 inches. Photograph by Allyn G. Smith.

The original description of *B. giganteus* in 1879 was brief and dealt almost exclusively with its remarkable size, enormous eyes, and unusual respiratory organs, the latter consisting of bundles of complex fingerlike gills at the base of each abdominal appendage. A. Milne-Edwards and Bouvier later (1902) published a very thorough study of the anatomy of this species, providing many excellent illustrations. Subsequently, in 1908, R. E. Lloyd provided a detailed description of the internal anatomy. The largest *Bathynomus* recorded in the published literature is a 36-centimeter (14-inch) adult from the Dry Tortugas off Florida, and the smallest is an immature female just 3.4 centimeters in length. Dr. R. Brusca, Curator of Invertebrate Zoology at the Natural History Museum of Los Angeles County, recounts examining specimens exceeding 46 centimeters (18 inches) in length taken by Caribbean trawlers.

Contrary to what is observed in the vast majority of deep-sea organisms, *Bathynomus* has exceptionally well-developed eyes. The eyes are compound like those of other arthropods and insects, and in *Bathynomus* each eye is composed of up to four thousand separate, square facets. Instead of being situated on the upper surface of the head, as in most species of isopods and crustaceans, they occupy the lower surface at the base of the antennae. Other isopods usually have thirty to forty facets in each eye, and most deep-sea and cave-dwelling isopods are completely blind. The increase in eye size in *Bathynomus* is not simply an effect of the increase in size of the animal, but is probably a result of adaptation to life in the deep sea. Less than 0.5 percent of the light striking the ocean's surface penetrates below 100 meters, and the most discriminating human eye can detect sunlight only to depths of about 400 meters. It would seem that in order to function in the darkness at great depths, the eyes of *Bathynomus* have become grossly enlarged relative to their shallow-water cousins. Unfortunately, we have no idea what a deep-sea creature like *Bathynomus* really "sees," but it must be a rather colorless world or at least a relatively monochromatic one, for at the great depths inhabited by these isopods only hues of blue and green light are present.

Gigantism occurs in many groups of organisms. Much speculation and numerous hypotheses have been offered in an effort to explain this phenomenon. Often, within a group of closely related species, the tendency toward gigantism increases as one moves from the warm equatorial regions toward the poles and from the warm shallow seas to the cold deep oceans. In general, cold-water species also grow and develop more slowly, exhibit lower metabolic rates, and live longer than their warm-water counterparts.

The monstrous appearance of *Bathynomus* is due in part to the first three pairs of large, prehensile legs. These are followed by four pairs of ambulatory legs, but all are armed with numerous spines and end in sharp, curving "claws." The powerful mandibles, which possess sharp incisors and tearing molar processes, are typical of voracious carnivores. The mandibular jaws are followed by two additional pairs of maxillary jaws. These six head appendages work together to hold, tear apart, and chew deep-sea creatures that fall prey to *Bathynomus*.

However, very few people have ever seen *Bathynomus* in its own world, as only deep-sea submersible vehicles allow observation in the depths at which these creatures live. Based on the isopod's agile swimming and large, muscular grasping legs, it seems almost certain that they can capture large and mobile prey, such as deep-sea bottom-dwelling fishes and crustaceans. Fishes collected in the same capture nets as these isopods are often badly mutilated, while the isopods reveal distended guts, suggesting they had fed ravenously on the helpless fish during their journey to the surface. The presence of large quantities of radiolarians and sponge spicules in the guts of different species of *Bathynomus* suggest that these isopods may also feed as scavengers. Attack of living prey in the natural environment has yet to be documented, but the presence of copepods, fish scales, nematodes, and shrimp remains in *Bathynomus* gut samples reinforces suspicions of an omnivorous, predacious habit and rather undiscriminating tastes. The enormous size of these isopods also suggests that they must consume a substantial diet, although at the depth and temperatures in which they live, their metabolism may be quite slow.

No fossil *Bathynomus* have been discovered, although one possible candidate

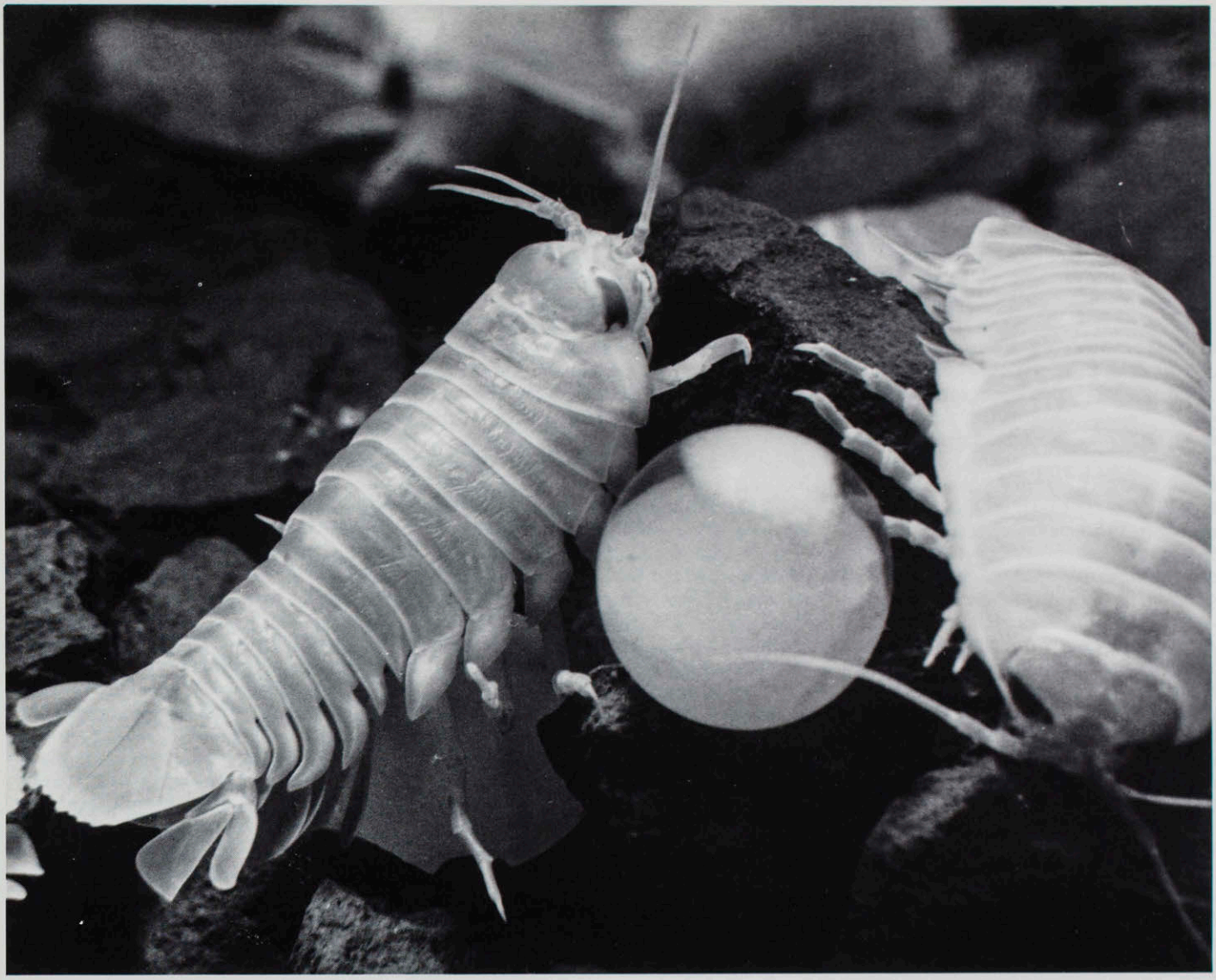
A juvenile that was successfully maintained at the New York Aquarium. The voracious and omnivorous* Bathynomus *uses its powerful mandibles to tear and cut apart its victims. Photograph by Bill Meng, courtesy of the New York Aquarium and New York Zoological Society.

is a fossilized fragment dating from the middle Miocene epoch (15 million years ago) and discovered in the Okayama Prefecture of Japan. Two other Cretaceous (75 million years ago) isopod fragments, both placed in the extinct genus *Pelaega*, may also be bathynomids. One is from Bedfordshire, England, the other from a Texas formation. The fossil fragment of *Pelaega guadalupensis* indicates that the body length of this specimen approximated a juvenile *B. giganteus* in size, although it is not possible to determine the stage of development from the fragment. Unfortunately, isopods do not fossilize well, and it is impossible to ascertain with certainty the real taxonomic disposition of these three fragmentary remains.

Apart from a few taxonomic studies, very little is known about *Bathynomus*. This is due in part to the technical difficulties of sampling at great depths. Bathynomids live below the limits of SCUBA techniques and may be capable of swimming fast enough to dodge most biological dredges trawled from oceanographic ships. With recent advances in commercial and scientific deep-sea fishing gear, such as baited free-release traps, bathynomids are now caught more often, though they still remain rare in research collections. Catch size of the Japanese species *B. doderleini* appears to be correlated with the topography of the sea bottom. This species is restricted to the waters of the Kuroshio Current, off central Japan, where it has been captured in greater abundance on gentle slopes than on steeper submarine inclines.

Preliminary experiments by Japanese biologists suggest that *B. doderleini* actively feeds at 8 degrees Celsius and stops feeding at water temperatures below 3 degrees C on the steeper slopes of the northern Japan Sea, and in the waters along the Pacific Coast of Japan north of latitude 38 degrees north. Thus, the absence of bathynomids from these area is possibly due to the extremely cold temperatures, although the influence of other environmental factors remains to be investigated.

In 1976 collectors from the New York Aquarium dredged up six large *Bathynomus giganteus* off Pensacola, Florida. The isopods ranged in size from 26 to 36 centimeters (10 to 14 inches). Another collection was made in 1980, and in addition to mature males and females, juveniles just 9 centimeters (3.5 inches) in length were obtained for exhibit. Gravid females carrying developing embryos were also captured for exhibit. Isopods have no larval stages; the embryos and young states are brooded in a pouch, or marsupium, in a fashion similar to marsupials. When the young hatch



Two juvenile Bathynomus *and a large, undeveloped egg at the New York Aquarium. Photograph by Bill Meng, courtesy of the New York Aquarium and New York Zoological Society.*

and leave the mother's brood pouch, they closely resemble the adults, but lack the seventh pair of legs. The New York Aquarium specimens were successfully maintained on morsels of fresh squid and fish in a 450-gallon tank at 8.8 degrees C (48 degrees F). To simulate their sunless environment, but to allow public viewing, dim red lights illuminated the exhibit. Their bizarre appearance, coupled with occasional bursts of rapid swimming movements, rolling from side to side with straightened bodies, drew daily crowds of observers to the aquarium.

Increasing numbers of *Bathynomus* are now being caught by commercial fishermen and scientists trapping red crabs *(Geryon)* off Florida. The isopods appear to survive the long trip of 600 to 1,200 meters to the surface, as well as extreme pressure and temperature changes, better than deep-sea fishes. Very little is known about their physiology, and it is not known if they suffer decompression sickness. In an effort to determine if deep-sea species can be recompressed at the surface so that their natural activities can be observed, Dr. Mary Wicksten and one of her graduate students, Brian Cocke, at Texas A & M University, are experimenting with *Bathynomus* from the Gulf of Mexico. If these creatures can be successfully recompressed, it will be possible to measure their respiration rates and photograph their activity patterns under conditions closely simulating their natural habitat.

Regina Wetzer is Collections Manager for Crustaceans in the Natural History Museum's Invertebrate Zoology Section.

Sweeter than Crab
A *Bathynomus* Dinner for Eight

6 to 8
fourteen- to fifteen-inch
Bathynomus giganteus

Place whole, crawling crustaceans, one at a time, in a microwave oven (550 watt). Cook on high power for four or five minutes. Split carapace, carefully avoiding breaking the stomach open. Remove meat (found mostly along the inside of the dorsal carapace and around legs); use meat in any recipe requiring crab meat. The texture is very similar to crab meat, but tastes quite a bit sweeter. Serves 8.

Reprinted with permission from the *Association of Marine Laboratories of the Caribbean Newsletter* (June 1986).

BOOK REVIEWS

THE ENCYCLOPEDIA OF REPTILES AND AMPHIBIANS edited by Tim Halliday and Kraig Adler, Facts on File, 1986. Cloth, 143 pp., $26.50, paper $9.95. This book rises far above the sea of poorly written and uninformative volumes on amphibians and reptiles that floods today's market. Both of the editors, Tim Halliday and Kraig Adler, are noted and knowledgeable herpetologists. Moreover, they have enlisted seventeen additional contributing authors to ensure that the topics are covered thoroughly and accurately. Each of the contributors is not only an expert on a particular group, but is also an active researcher and carries this perspective to the book. As a result, the reader is given an appreciation of herpetology as being the *study* of amphibians and reptiles, rather than a mere compendium of facts, as might be suggested by the title of the book and the series. The authors are about evenly divided between the two major centers of herpetology, Europe and America, and are quite successful in establishing a scope to the book that is truly global in terms of the topics discussed and the species illustrated.

A good balance is maintained between the systematic approach to the subject (that is, by groups such as frogs, snakes, and so on) and that of general biological disciplines (such as ecology and behavior). The basic arrangement of the book is systematic, and concise summaries are provided of the geographic distribution, physical characteristics, and included species for each of the nine orders or suborders and eighty-two families of living amphibians and reptiles. The maps of the geographic distributions of the families are of particular interest as they are not available in most other general references.

Much of the test is devoted to discussions of the adaptations of amphibians and reptiles. It is in this area that the book is markedly superior to other volumes on the market. Aspects of the structure, function, life history, and conservation of each major group are not only described in detail, but unanswered questions are raised and discussed in terms of current topics in evolutionary biology.

Of course, much of the appeal of any volume of this nature lies in the illustrations. Here again the book excels. The color photographs are truly outstanding, and these are supplemented with superb paintings, many by the noted herpetological artist David Dennis. More important, the artwork is carefully selected to make significant points. In boxes adjacent to many of the photographs are interesting discussion of related research, ranging from the study of frog toxins to the sexual behavior of unisexual lizards.

This is clearly the most informative and best illustrated general work on amphibians and reptiles to appear in a long time and is recommended to all.

Robert L. Bezy
Associate Curator
Section of Herpetology

THE NEW NATIVE AMERICAN NOVEL: WORKS IN PROGRESS edited by Mary Dougherty Bartlett, published for *New America* by the University of New Mexico Press, 1986. Paper, 132 pp., illustrated. Until the publication in 1968 and the 1969 awarding of the Pulitzer Prize to N. Scott Momaday's *House Made of Dawn*, earlier literary efforts by Native Americans had gone virtually ignored. Since then, there has occurred a blossoming forth of Native American literature. Ironically, perhaps, none of this would have happened had it not been for the largesse of the National Endowment for the Arts and the National Endowment for the Humanities, which together have come to serve as something of a patron to many of the talented writers represented in the volume under review, the very publication of which depended upon, among others, a generous grant from the National Endowment for the Humanities.

Despite the problems inherent in its "works in progress" format, the authors included in *The New Native American Novel* manage for the most part to overcome them with what, at least for this reader, is a truly dazzling display of stylistic virtuosity and imaginative effort that combine to show the subtle mutability of the novelistic form. If nothing else, this collection of current work shows the truly mind-boggling breadth, depth, and variety of contemporary Indian fiction. These authors represent a number of tribes and many parts of the country. Two of them have won prestigious national literary prizes, including N. Scott Momaday, as mentioned above, and Louise Erdrich, who won the National Book Critics Circle Award in 1984 for her *Love Medicine*.

The brilliantly bizarre fusion of Native American themes with a humorously anomalous view of mainstream American history and culture that characterize so many of these fine pieces has led this reviewer to conclude that, on the basis of this volume, Native American fiction just might be on the verge of its own boom, with the same overwhelmingly searing admixture of fantastical realism, brutally reductive naturalism, and political cynicism that has come to make the writers of the Latin American boom so appealing to post-modern sensibilities.

David M. Debs
Curatorial Assistant
Cultural History

JUAN RODRIGUEZ CABRILLO by Harry Kelsey, Huntington Library, 1986. Clothbound, 261 pp., $25. Juan Rodríguez Cabrillo led the first Spanish explorations along the California coastline in 1542. He and his men were the first Europeans to make contact with the indigenous peoples, the first to name the landmarks and explore the harbors. Their voyage took them north of San Francisco Bay, but they battled severe winter storms (which deposited heavy snow along the Big Sur coast) and finally turned back to find refuge among the Channel Islands. According to Dr. Kelsey, it was at Santa Catalina Island that Cabrillo fell while rescuing a group of men from an Indian assault, breaking his leg and eventually succumbing to gangrene.

This intrepid conquistador has been studied as never before by Dr. Kelsey, Chief Curator of the Natural History Museum's History Division. The author has plowed new ground in his research, and the result is a thorough and carefully documented account of Juan Rodríguez, as the explorer usually signed himself, and his life and times. The biography is a first; the conquistador has only received biographical essays to this point, and many contained information that is either disputed or corrected by Dr. Kelsey. The book will stand as a cornerstone of research on this historical figure.

Juan Rodríguez Cabrillo was of humble birth and unknown parentage, but he became well educated for the time (he could both read and write) and rose rapidly among the conquistadors, having a flare for shipbuilding and navigation. He was a participant in the conquest of Mexico, Guatemala, and other southern territories. He was not different from his fellow conquistadors in his brutality and his callous treatment of the indigenous peoples; the recounting of Spanish treatment of these folk does not make for pleasant reading. But beyond that, he was a competent and successful servant of the crown and was rewarded with wealth and responsibility.

The very nature of the biography, over-

burdened as it is with documentation and support from the many primary sources, detracts from its potential enjoyment as a readable work. Footnote numbers march through the text (up to fifteen per page—740 for 163 pages of text), and the account is thus replete with historical facts and the support of them. For example, in establishing the approximate year of Juan Rodríguez's marriage, four separate supporting accounts are cited in the text to establish the date within twelve months. By having to rely so heavily upon critical examination of documentary accounts, the biography lacks a sense of the drama and excitement that was so much a part of the life of this man.

Because of the reputation of both the publisher, the prestigious press of the Huntington Library, and the designer, Ward Ritchie, who has produced so many fine works in the book arts, I cannot but mention the many blemishes that mar an otherwise attractive work. Numerous hairlines remain from paste-up that should have been corrected before printing; five percent of the pages begin with a widow or short line; the interior margins of several pages are severely out of alignment, especially pages 16 and 17; the map on page 100 is upside down, and many of the maps are reduced so as to be unreadable and of no use to the text. More care in pre-press preparation was needed.

The text is quite free from proofreading errors, and faced with the quantity of documentation, Spanish accents, and unfamiliar names, this was no small achievement. The inclusion of a fine bibliography, index, and glossary is welcome; the lack of modern maps denoting the conquest areas from Mexico southward, not to mention the California coastline, is mourned.

This biography fills a need and fills it well. Those who have an interest in and love for California, its exploration and development, will find this book well worth owning. Those who pursue the history of Spain in the West are grateful for an inspired research accomplishment.

Robert A. Clark, the author of this review, is Editorial Director of the Arthur H. Clark Company of Glendale, a leading publisher of Western Americana.

Subject Index for TERRA, Volume 24. A comprehensive index to Volume 24 of TERRA is now available through the Natural History Museum Publications Office. Please call 213/744-3330 if you would like to receive a copy. Indexes to volumes 22 and 23 are also available.

Crustacea Laboratory and Collection Growing. Major invertebrate collections are being transferred to the Invertebrate Zoology Section of the museum from the University of Southern California. The largest collection to be received to date is the Crustacea collection, which comprises about 100,000 lots and several million specimens. The new material makes the museum's Crustacea collection one of the most important in the world and second in size in the New World only to that of the Smithsonian Institution's National Museum of Natural History.

Several major projects involving the Crustacea collection have been or are about to be initiated. These include renovation of an area of the museum for collection storage and installation of mobile compact shelving units; computerization of the data base for the entire collection (to begin January 1987); initiation of a program in which Crustacea specialists from around the world will be invited to Los Angeles to undertake collection-based research; and initiation of an active specimen exchange program with foreign museums. These activities are being funded by a large grant recently awarded to Dr. Richard C. Brusca, Curator of Crustacea and Head of the Invertebrate Zoology Section, by the National Science Foundation (NSF).

The Crustacea Laboratory is also engaged in a number of large research projects. One of these is the preparation of a guide to California marine isopods. Other research is concerned with systematics and ecology of marine crustaceans on Central American shores, including studies of coral reef and mangrove forest environments in Costa Rica; the Central American studies are funded by grants to Dr. Brusca from NSF and the Ralph J. Weiler Foundation.

Ever Been Bitten by a Booby? The Natural History Museum's Bird Council is sponsoring a volunteer trip to the Christmas Islands to assist in research on seabirds by Dr. and Mrs. Ralph W. Schreiber, Curator and Research Associate in the Section of Birds. The Schreibers need volunteers for one or two weeks on the island, which is 1,200 miles south of Hawaii, to help observe the boobies, frigatebirds, tropicbirds, and terns nesting there as part of their study of the effects of El Niño on tropical seabirds (see *Terra*, July /August 1985).

Volunteer field assistants rise early each day to work before it is too hot, take midday off, and work afternoons and some evenings. They have to be willing to grab birds and stuff them into bags for weighing, pick up fish and squid regurgitated by the birds, walk some distance, ride in the back of a pick-up truck, and stand the heat. There will be opportunities for swimming, snorkeling, bone fishing, and wandering through a native village. This is a fine chance to spend time contributing to a scientific study and to have a great time in a field situation.

The trip is planned for late June or early July 1987. Expenses as a field assistant are tax deductible and are approximately $2,200 for one week or $2,900 for two weeks, includng air fare from Los Angeles.

If you are interested, write Dr. or Mrs. Ralph Schreiber, Natural History Museum, 900 Exposition Boulevard, Los Angeles, CA 90007, or call 213/744-3366.

Mineralogy Curator Receives American Federation of Mineralogical Societies Award. Dr. Anthony Kampf, Curator of the Natural History Museum's Mineralogy Section, has been awarded the 1986 award for Distinguished Achievement in the field of Earth Sciences by the American Federation of Mineralogical Societies' Scholarship Foundation. This award allows Dr. Kampf to select the recipients of two academic scholarships provided by the federation.

Collecting Small Mammals in Mexico. Dr. Sarah B. George, Assistant Curator of Mammals, and Lynn Barkley, Curatorial Assistant for Mammals, spent five weeks collecting small mammals in Mexico last summer. The expedition was sponsored by William J. Cheney, who has sponsored a number of collecting trips in the past for the museum. Collecting took place in the Mexican states of Guerrero, Oaxaca, and Chiapas; the primary aim was shrews, but a number of rodent species were acquired as well. Dr. George and Mrs. Barkley were accompanied by Dr. Mark D. Engstrom, Research Associate in Mammals, who teaches at Angelo State University in Texas, and Sr. Julio Juarez-G., a student at the Universidad Nacional Autonoma de Mexico.

Experience the Beauty of the Southwest

The vitality of contemporary Southwest Indian art can be seen in this unusually fine selection of handmade pottery now available in the Ethnic Arts Shop. These works were created by award-winning artists and were individually selected in Santa Fe, New Mexico. These collectable pieces represent a variety of Pueblos: Acoma, Santa Clara, Laguna, Hopi, Jemez, Pojoaque, Cochiti, and San Ildefonso.

The Ethnic Arts Shop
Natural History Museum
900 Exposition Boulevard
Los Angeles, CA 90007

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